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the staple was as fine as it was in any other part of America. He felt perfectly confident that, better than bringing home a cargo of timber or coming home in ballast, it would be a very great advantage if our merchant vessels coming home from Australia could pick up a cargo of cotton.

There were many other articles grown in the Fiji, of interest to us, besides cotton. The islands abounded in fruit and in cocoa-nuts. Indeed, the natives planted cocoa-nuts because they had nothing else to plant for export. In seven years every cocoa-nut planted was valued at four shillings sterling; consequently, where they had only the cocoa-nut tree to plant and could allow nature to rear them up, it was not worth their while to cultivate the ground. But if we could make it an object with them to cultivate the land, he had no doubt they would produce good cotton, and, with care, equal to any that we got from America.

The islands also produced fancy woods and fair timber. With respect to timber, there were no good spars produced, after leaving Australia, until you reach the Fijis. None of the timber of the other islands for spars was worth a farthing, being very porous and not possessing the requisite density and elasticity; therefore, should a vessel lose her spars, the timber of the Fiji islands would be found very serviceable.

SIR RODERICK MURCHISON announced that Dr. Seemann was about to publish, at his own expense and risk, an account, not only of the expedition, but describing in detail and with illustrations all the plants of these remarkable islands. There were many varieties of genera and species of plants which had hitherto been wholly unknown to the botanists and naturalists of Europe. He therefore hoped there were many gentlemen present, who, with the noble Lord in the chair and himself, would support the laudable publication of the 'Flora Vitiensis' by Dr. Berthold Seemann.

Eleventh Meeting, Monday, 28th April, 1862.

MAJOR-GENERAL PORTLOCK, VICE-PRESIDENT, in the Chair.

PRESENTATIONS.—*Isaac Braithwaite and F. J. Sargood, Esqrs., were presented upon their election.*

ELECTIONS.—*Sir Daniel Cooper ; Captain R. J. Henry ; Lieut.-Colonel Sir John Stephen Robinson, Bart. ; the Rev. Thomas Scott ; George Arbuthnot ; Peter Bicker-Caarten ; Charles Brett ; G. Willoughby Hemans,* C.E. ; *Henry T. Parker ; Berthold Seemann,* PH. DR. ; *Henry Sprigg ; Henry Sterry ; George Tyler, and R. Dobie Wilson, Esqrs., were elected Fellows.*

ACCESSIONS.—Among the accessions to the Library and Map-rooms since the former meeting were—Vol. ii. of Messrs. Schlagintweit's 'India and High Asia,' with Atlas ; Part xiii. of the 'Imperial Dictionary of Universal Biography ;' Admiralty Chart of Shanghai and Environs ; four sheets of Carnbée's Atlas of Netherlands India ; Part ii. of Philip's Imperial Library Atlas, &c. &c.

The Papers read were :—

1. *The Surface Currents in the Bay of Bengal, during the South-west Monsoon.* By Lieutenant J. A. HEATHCOTE, I.N.

THE currents of the Bay of Bengal have not hitherto been accurately determined. Horsburgh gives a short general account, but his conclusions are based on analogy rather than on fact; and Lieutenant Fergusson's charts of the Indian and China seas are drawn on a small scale, and are inaccurate for the Bay of Bengal.

The materials from which the present paper has been compiled were mainly gathered from the log-books of a large number of the old East India Company's traders, which have been carefully scrutinised by Lieutenant Heathcote. They have a value exceeding any that is obtainable in the present day, now that improved methods of astronomical determination make "dead reckoning" (or the calculation of a vessel's position from the simple data of her course and speed) of minor importance. Currents are estimated by comparing the true position of a ship, whether determined astronomically or by sight of land, with her expected position as calculated by dead reckoning: it is obvious that these comparisons are of value in those cases alone where both elements are given with scrupulous accuracy.

The author's investigations are limited, at present, to the currents of the South-west Monsoon; but that season is the one in which the greatest dangers present themselves, and a trustworthy knowledge of currents is of the most importance.

Copious extracts from the paper are given at p. 114, in "Additional Notices."

MR. CRAWFURD said the paper appeared to him to be a most able and judicious one, and the author deserved their most hearty thanks. The question was of prodigious importance in relation to our commerce in those seas. He believed the exports and imports to Bombay amounted to about ninety millions annually; the commerce of Calcutta was about the same; and the commerce of the Straits of Malacca amounted to from ten to twelve millions. In short, we had close upon two hundred millions sterling of British property passing up and down this gulf.

MR. GEORGE DUNCAN said he felt very ill qualified to address the meeting, but he was not quite prepared to agree with all the statements contained in the paper. He had made six consecutive voyages to Calcutta, and had traversed the Bay of Bengal, and, therefore, he had obtained some experience in the matter. In the south-west monsoon the currents varied very much. In the early part of the south-west monsoon there was a strong current passing up on the west side of the Bay of Bengal; but in the later part of the south-west monsoon there was a strong current setting in the opposite direction. The north-east monsoon, having blown for six months nearly, has blown the water below the level; and therefore during the latter part of the north-east monsoon he had been carried along the coast of Coromandel by a north-easterly current at least 60 or 70 miles a day; and during the first part of the south-westerly winds, he had beat down on the west side, in the month of August, and had been carried 50 miles with a current setting to the south-westward. So that to say that throughout the south-west monsoon a certain definite current prevailed in the Bay of Bengal would be a great mistake. After the rains had fallen in India, and the rivers had been swelled, a great quantity of water was thrown into the upper part of the Bay of Bengal. The surface of the water was pressed upon by the south-west monsoon, and not allowed to find its way readily to the southward again, it therefore formed a current along the shore. Ships leaving the river Hooghly in the latter part of July and the beginning of August regularly made it a point to keep close to the west shore, where they got, not only good smooth water, but a strong current setting southward. It was, therefore, a mistake to suppose that during the south-west monsoon a steady current set in in the direction indicated.

MR. R. SAUNDERS considered Lieut. Heathcote's paper to be framed more on imaginary views than on sound practical data. So well understood were the currents in the Bay of Bengal, that few shipwrecks happen on its shores; and when they had occurred, in his experience since 1829, he never remembered an instance in which fault was traceable to undefined currents.

DR. HODGKIN thought it would interest the meeting to be reminded, that it was the mutual action of large oceanic currents, in the Eastern Seas, that led the late Dr. Young to the explanation of the phenomena due to interferences of the undulations of light. He considered there was some reason to doubt an opinion of the gentlemen who had addressed them, that the large rivers flowing into the head of the Bay of Bengal exercised an important influence on its currents. In illustration of his objection, he would remark that a friend of his had an idea, many years ago, that it would be possible to propel vessels through the sea by forcing a stream of water from their sterns, on the same simple principle that rockets are propelled through the air. His friend tried the experiment; but found the method wholly unsuccessful, in consequence of an immediate diffusion of the expelled current of water through that in which the vessel floated. Now it appeared to him that a diffusion of the same nature would very likely take place, when a river poured its waters into the sea, and that no defined current of any considerable length was likely to be caused by it.

LIEUT. HEATHCOTE, in reply, doubted if his statement had been clearly understood either by Mr. Duncan or Mr. Saunders.

3. *Notes of a Visit to the Elburz Mountains and ascent of Demavend.*

By R. G. WATSON, Esq.

ON July 23rd, the party consisting of the Prussian minister at Teheran; Dr. Brugsehes, the secretary to the mission; Dr. Dolmaye, of the Teheran college; and three other gentlemen including the author, with six guides, started on this expedition. They left the neighbourhood of Teheran, and reached Abigarm, the last village on the way to the mountain, on the evening of the 26th, where they met Captain Nicholas and another French officer, who had recently attempted an ascent. M. Nicholas considered he had arrived within 300 or 400 feet of the crater. They encamped on the 24th in the valley of the Lar, where one of the party caught 199 trout after eight hours' fishing. On the 27th they pitched their tents at the termination of the regular path towards Demavend, at a place where herdsmen have piled stones in circles, and where water boiled at 189° when the air was at 60°. The valley through which they had passed was clothed with magnificent scarlet poppies and thistles, and other plants not so familiar to English eyes. A day was lost at the encampment in a vain endeavour to repair an injured barometer, and on the 29th the ascent began. The horses had to be left after an hour, when the first snow was reached; then